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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/403,312	01/21/2000	KUNIO FUKUDA	6715/57722	7093

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EXAMINER
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HARPER, KEVIN C

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 10/06/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/403,312

Applicant(s)

FUKUDA, KUNIO

Examiner

Kevin C. Harper

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 October 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Drawings***

1. The drawings are objected to because Figure 2, item 15, and Figure 3, item 16, require descriptive wording (35 CFR 1.83(a)). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Objections***

2. Claims 6-14, 20-32, 42-51 are objected to because in independent claims 6, 7, 11, 20, 21, 27, 42, 43 and 47-48 the parenthesis should be removed.
3. Claim 48 is objected to because "signal carrier signal" in the last line should be --single carrier signal--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4, 6-7, 9, 11, 13, 15-16, 18, 20-21, 27, 29, 33, 35, 37-40, 42-45 and 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US 5,903,614) in view of Gudmundson et al. (US 5,790,516).

4. Regarding claims 1-2, 6-7, 11, 15-16, 20-21, 27, 33, 35, 37-39, 42-43 and 47-48, Suzuki discloses a base station device (Figure 2) having an inherent transmission and receiving means for using at least one carrier signal for communication between terminal devices (abstract, lines 1-3). The terminal devices each have an inherent transmission means and a receiving means. However, Suzuki does not disclose that uplink transmissions use fewer carriers than downlink transmissions. Gudmundson discloses a multi-carrier system in which the uplink transmission uses fewer carriers than the downlink transmission (col. 2, lines 56-67). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have fewer subcarriers in an uplink transmission in the invention of Suzuki in order to avoid having reserved yet unused resources in a communication system by appropriately allocating bandwidth commensurate to an intended data transmission.

5. Regarding claims 4, 9, 13, 18, 29, 40, 44-45 and 49-50, Suzuki discloses an inherent timing control means (Figure 2; col. 3, lines 35-38) for the terminal devices to transmit on appropriate time slots within a frame.

Claims 3, 5, 8, 10, 12, 14, 17, 19, 22, 23-24, 28, 30, 34, 36, 41, 46 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Gudmundson et al., as applied to claim 2, 7, 11, 16, 21, 27, 31, 35, 38, 43 or 48 above, in further view of Frodigh et al. (US 5,726,978).

6. Regarding claims 3, 5, 8, 10, 12, 14, 17, 19, 22, 23-24, 28, 30, 34, 36, 41, 46 and 51, Suzuki in view of Gudmundson does not disclose a carrier controller or a discrimination means. Frodigh

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discloses an inherent carrier controller and discrimination means (Figures 2, 4A and 5) for transmitting data or receiving data on an appropriate subcarrier. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have a carrier controller or carrier discrimination means in the invention of Suzuki in view of Gudmundson in order to transmit or receive data on an assigned subcarrier or subcarriers.

Claims 25-26 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Gudmundson et al., as applied to claim 21 or 27 above, in further view of Frodigh et al. (US 5,726,978) and Igarashi et al. (US 5,940,143).

7. Regarding claims 25-26 and 31-32, Suzuki in view of Gudmundson does not disclose a carrier controller or a discrimination means. Frodigh discloses an inherent carrier controller and discrimination means (Figures 2, 4A and 5) for transmitting data or receiving data on an appropriate subcarrier. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have a carrier controller in the invention of Suzuki in view of Gudmundson in order to transmit or receive data on an assigned subcarrier or subcarriers. Further, Suzuki in view of Gudmundson and Frodigh does not disclose a passband filter. Igarashi discloses a controllable passband filter for an OFDM system (Figure 1, item 20; col. 5, lines 41-42 and 55-58) for properly tuning to a desired reception frequency or frequencies. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have a passband filter for selecting a reception frequency or frequencies in the invention of Suzuki in view of Gudmundson and Frodigh.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suzuki (US 6,256,356) discloses a multi-carrier system (Figures 4-6).

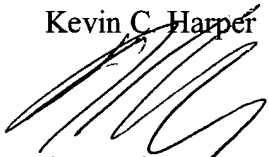
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 703-305-0139. The examiner can normally be reached weekdays, except Wednesday, from 9:30 AM to 8:00 PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao, can be reached at 703-308-5463. The fax number for Technology Center (TC) 2600 is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service Office for TC 2600 at 703-306-0377.

Kevin C. Harper



September 30, 2003

*Seema S. Rao*  
SEEMA S. RAO 10/1/03  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600